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COOPER Crouse-Hinds

Instruction Manual

FAA L-804
LED

Elevated Runway Guard Light

Instruction Manual

Cooper Industries
Crouse-Hinds Division
Airport Lighting Products
1200 Kennedy Road
Windsor, CT 06095

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For Parts or Technical Service Call (860) 683-4300

1 Revisions

REV.	DESCRIPTION	LTR.	CHK.	APV
A	Released for production	A210-057	4/20/10	AR
B	Various corrections and Section Rewrites	A210-124	TM	SJM

2 Limited Product Warranty

THE FOLLOWING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT BY WAY OF LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Crouse-Hinds Airport Lighting Products (the "Company") warrants to each original Buyer of Products manufactured by the Company that such Products are, at the time of delivery to the Buyer, free of material and workmanship defects, provided that no warranty is made with respect to:

(a) any Product which has been repaired or altered in such a way, in Company's judgment, as to affect the product adversely;

(b) any Product which has, in Company's judgment, been subject to negligence, accident or improper storage;

(c) any Product which has not been operated and maintained in accordance with normal practice and in conformity with recommendations and published specification of Company; and,

(d) any Products, component parts or accessories manufactured by others but supplied by Company (any claims should be submitted directly to the manufacturer thereof).

Crouse-Hinds Airport Lighting Product's obligation under this warranty is limited to use reasonable effects to repair or, at its option, replace, during normal business hours at any authorized service facility of Company, any Products which in its judgment proved not to be as warranted within the applicable warranty period. All costs of transportation of Products claimed not to be as warranted and of repaired or replacement products to or from such service facility shall be borne by Purchaser. Company may require the return of any Product claimed not to be as warranted to one of its facilities as designed by Company, transportation prepaid by Purchaser, to establish a claim under this warranty. The cost of labor for installing a repaired or replacement product shall be borne by Purchaser. Replacement parts provided under the terms of this warranty are warranted for the remainder of the warranty period of the products upon which they are installed to the same extent as if such parts were original components thereof. Warranty services provided under the Agreement do not assure uninterrupted operations of Products; Company does not assume any liability for damages caused by any delays involving warranty service. The warranty period for the Products is 24 months from the date of shipment or 12 months from date of first use whichever occurs first.

3 Safety Symbols

3.1 Danger

DANGER

DANGER:

The hazard or unsafe practice will result in severe injury or death.

3.2 Warning

WARNING

WARNING:

The hazard or unsafe practice could result in severe injury or death.

3.3 Caution

CAUTION

CAUTION:

The hazard or unsafe practice could result in minor injury.

3.4 Notice

NOTICE

NOTICE:

Possibly dangerous situation, goods might be damaged.

3.5 Important

IMPORTANT

IMPORTANT:

Helpful information.

4 Safety Notices

NOTICE

NOTICE:

This equipment is normally used or connected to circuits that may employ voltages that are dangerous and may be fatal if accidentally contacted by operation or maintenance personnel. Extreme caution should be used when working with this equipment. While practical safety precautions have been incorporated in this equipment, the following rules MUST be strictly observed.

4.1 Keep Away From Live Circuits

DANGER

DANGER:

Operation and maintenance personnel must at all times observe all safety regulations. Do not perform maintenance on internal components or re-lamp with power ON.

4.2 Resuscitation

Maintenance personnel should familiarize themselves with the technique for resuscitation found in widely published manuals of first aid instruction.

IMPORTANT

IMPORTANT:

See FAA Advisory Circular AC 150/5340-26 for additional information.

5 Table Of Contents

6 List of Figures

7 General Description

7.1 General

The Crouse-Hinds elevated runway guard light (ERGL) is an ETL verified FAA L-804. The ERGL runway guard light is an elevated light fixture consisting of two LED modules that alternately flashes 45-50 per minute in yellow to identify taxiway holding position lines. The clear signal lenses are glass and are housed in aluminum enclosures. Access to each LED module is made through a hinged cover secured by a wing nut. No special tools are required for maintenance. The Power electronics and Circuit card are housed in an aluminum enclosure attached between the two light heads. Circuit card can be changed without tools by disconnecting the fast-on terminals from the terminal blocks and sliding the door off its hinge pin. A spare door with replacement circuit cards can be slid back onto the hinge pin and fast-on terminals reattached to circuit card terminal blocks. Positive angular adjustment is made by bolting through the appropriate hole in the steel side supports and yoke. The unit is attached to a standard steel 10-1/4 dia. B.C. L-867 light base (customer supplied) and heavy 12-inch diameter base plate (customer supplied, see accessories, page 4) with a 2-11 1/2 NPSM threaded aluminum coupling. The coupling is prevented from rotating due to jet blast by an aluminum anti-rotation plate bolted to the base plate. In addition, the coupling is prevented from rotating and lifting out of its aluminum slide fit mount by three sets of set screws. A stainless steel tether is provided for securing the unit to the base plate. Power is provided to the unit through an L-823 style plug. A ground stud is provided internal for units with monitoring and external for units without. All hardware is type 18-8 stainless steel. Power is provided to the unit through an appropriate size isolation transformer (not provided) or name plate rated AC or DC power sources. The average weight of the unit is approximately 45 lb.

7.2 Units without Control System Monitoring (6.6A)

Power provided to unit from the 65W, 6.6A isolation transformer through a supplied 2-pin molded L-823 plug. See Figure 5 on page 17 (without monitoring).

7.3 On/Off Switch (Option -1 (6.6A)) Mode 1

Allows unit to be serviced or have circuit cards changed in field without turning power off at source. Switch isolates the secondary of isolation transformer from the internal circuitry.

7.4 6.6A Series Unit with Monitoring (Option 2) Mode 1

Unit requires connection to a 65W, 6.6A series secondary isolation transformer. A molded female connector is provided for connection to a 5-pin L-823 style plug. The 5-pin female connector provides for connection to the isolation transformer, a ground lead for connection to the L-867 internal ground stud, and two leads for connecting the monitoring signal lines. Shielded monitor leads are connected to the circuit card relay common and normally open or closed contact (customer can change this connection depending on their preference). The monitoring relay (rated 120V, 2 A resistive load) will provide a signal path for failure detection if the fixture is not

operating correctly to a customer provided indicator or to a Crouse-Hinds Logitrac device. Per FAA AC 150/5340-28, a three or five step FAA L-828 constant current regulator should be used for powering the Runway Guard Light.

7.5 115-250 Vac 50/60 Hz. Voltage Unit with Monitoring and On/Off Switch Mode 2

A molded female connector is provided for connection to a 5-pin L-823 style plug. The 5-pin female connector provides for connection to the 115-250 AC source, a ground lead for connection to the L-867 internal ground stud, and two leads for connecting the monitoring signal lines. Shielded monitor leads are connected to the circuit card relay common and normally open or closed contact (customer can change this connection depending on their preference). The monitoring relay is rated for 120V, 2 A resistive load and will provide a signal path for failure detection if the fixture is not operating correctly to a customer provided indicator. The fixture is also equipped with a photocell to control light intensity. Photocell allows for full intensity light output from fixture during high ambient lighting conditions and then reduces fixture output light intensity to 30% during low ambient light conditions.

7.6 24 DC Voltage Unit with Monitoring and On/Off Switch

A molded female connector is provided for connection to a 5-pin L-823 style plug. The 5-pin female connector provides for connection to the 24 DC source, a ground lead for connection to the L-867 internal ground stud, and for connecting the monitoring signal lines. Shielded monitor leads are connected to the circuit card relay common and normally open or closed contact (customer can change this connection depending on their preference). The monitoring relay is rated for 120V, 2 A resistive load and will provide a signal path for failure detection if the fixture is not operating correctly to a customer provided indicator. The fixture is also equipped with a photocell to control light intensity. Photocell allows for full intensity light output from fixture during high ambient lighting conditions and then reduces fixture output light intensity to 30% during low ambient light conditions.

7.7 Logitrac Digital Control & Monitoring (6.6A Series Circuit Only)

This configuration is recommended for use with a Crouse-Hinds Digitrac ALCMS Computer, but not required. In addition, a Continuous Logitrac Adapter (CLA) and Continuous Logitrac Device (CLD) unit must be ordered as separate items and installed in the lighting vault and on the Lighting circuit. Contact Crouse-Hinds sales for assistance. Unit requires connection to a 100W, 6.6A series secondary isolation transformer and Option 2 is required. Power provided to the unit from the Logitrac through a supplied 5-pin molded L-823 plug. A circuit number (CKT) and address number (ADRS) must be programmed onto the CLD in order for the monitoring portion to function with the CLD. The CLA can report the monitoring information directly to the Crouse-Hinds Digitrac Computer System, or the monitoring information can be obtained from a dry contact on the CLA in the lighting vault. Connection to a three or five step FAA L-828 Constant Current Regulator is still required.

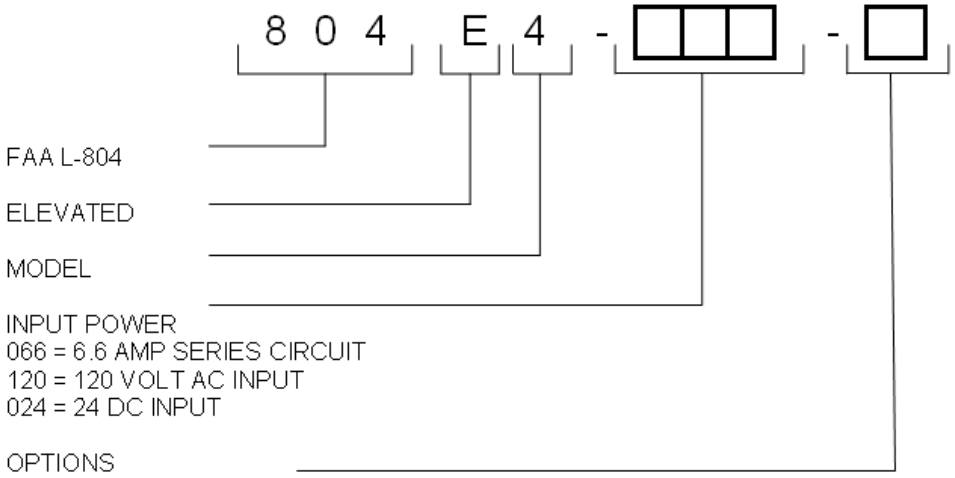
7.8 Environmental

Temperature:	-55º to +55ºC
	(-67º to +131ºF)
Altitude:	0 to 10,000 feet
Humidity:	0 to 100 percent
Wind Loading:	Up to 300 MPH

7.9 FAA Specification

Meets requirements of L-804 per FAA AC 150/5345-46D and FAA Engineering Brief No. 67 "Light Sources other than Incandescent and Xenon for Airport Light and Obstruction Light Fixtures." Fixture performance and operation has been verified ETL. Fixture meets the requirements of Low-Visibility Taxiway light Systems as specified in FAA AC 150/5340-30. Also meets requirement of ICAO Annex 14 specification, Vol. 1, Section 5.3.22 Configuration A, High Intensity. Light housing front surfaces, baffle plate and lens caps painted black. All other external parts are painted aviation yellow with the exception of frangible coupling, stainless steel hardware, tether, hinge, and latch.

PART NUMBER EXPLANATION



7.10 Accessories:

33003 65W 6.6/6.6 AMP SERIES ISOLATION TRANSFORMER -6.6A INPUT.

33004 100W 6.6/6.6 AMP SERIES ISOLATION TRANSFORMER -6.6 A INPUT.

33005 100W 20/6.6 AMP SERIES ISOLATION TRANSFORMER – 20A INPUT.

AP1832, 12-3/8 INCH DIAMETER (10-1/4 DIA. B.C.) HEAVY BASE PLATE WITH 2 INCH NPS THREAD.

AP2832, 16 INCH DIAMETER (14-1/4 DIA. B.C.) HEAVY BASE PLATE WITH 2 INCH NPS THREAD.

50284-1, OR 50284-2 DOOR SUB-ASSEMBLY (INCLUDES GASKET, WARNING LABEL, HINGE HALF & STRIKE).

70278 5-PIN L-823 FEMALE CONNECTOR ASSEMBLY.

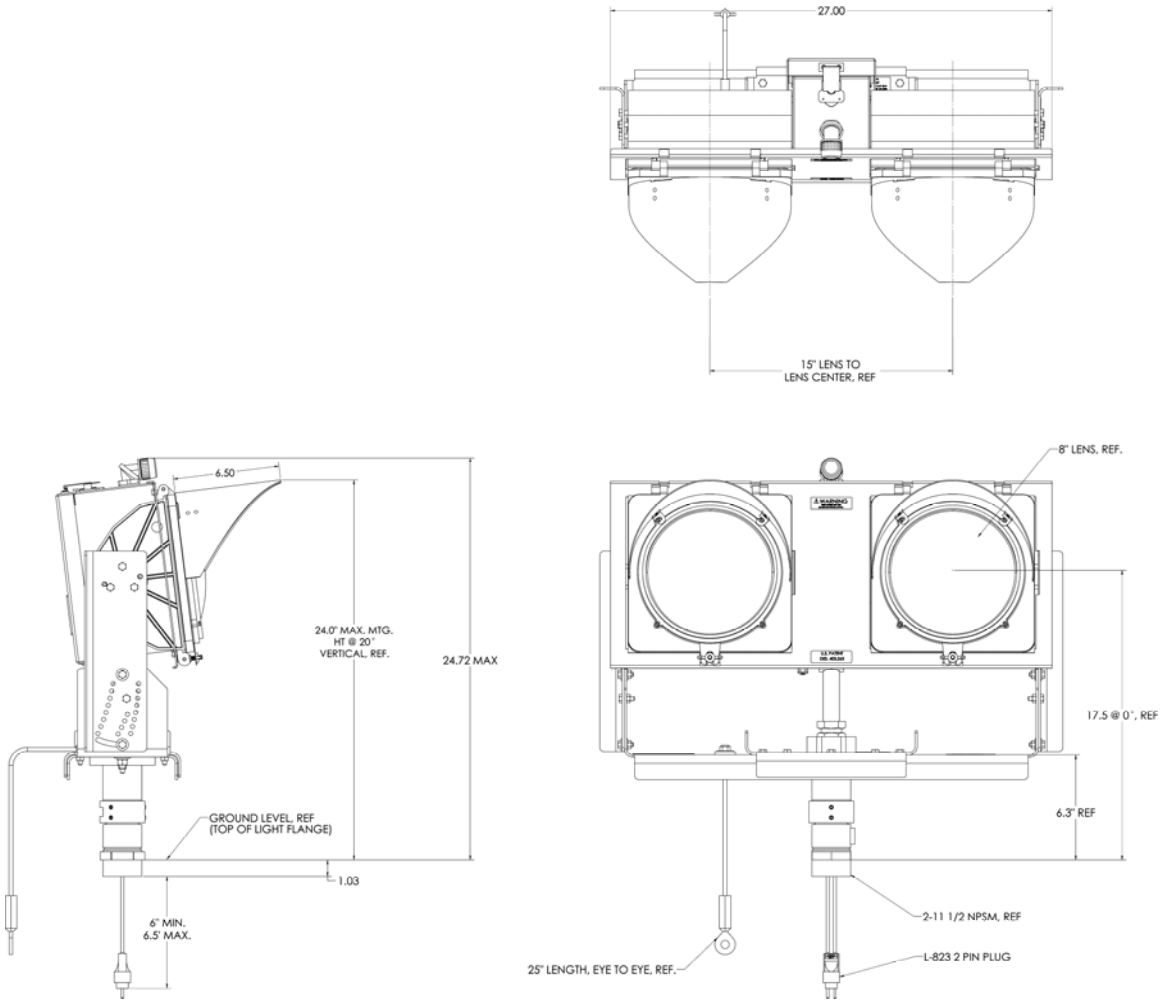


Figure 1. General Dimensions

8 Installation

8.1 General

Locations for L-804 elevated runway guard lights are shown in FAA AC150/5340-28 and FAA AC 120-57A. In addition, the 10-1/4 diameter B.C. steel L-867 light base should be installed per above mentioned advisory circular. The L-867 light base flange is installed with the top of the flange flush with the concrete as finished grade reference. This will maintain the maximum 26-inch unit mounting height at 20º vertical or the 14-inch unit minimum mounting height to bottom of lens. A heavy base plate (P/N AP1832 [12-3/8 dia.] or AP2832 [16-inch dia.]) should be used with this unit due to high wind loading requirement. The 3/8 hardware used to secure the base plate should have bolts 1-3/4 inches long as a minimum (to attach tether and anti-rotation plate - 2-inch long bolts provided). Base plate gasket and base plate should be installed on light base, but do not fully secure bolts until L-804 unit has been installed.

DANGER

DANGER:

INSTALLATION OF UNIT TO BE DONE WITH PRIMARY POWER OFF AND SECURED.

8.2 6.6A Series Unit without Monitoring

Install appropriate isolation transformer into light base and make necessary primary power connections using L-823 connectors. Isolation transformer secondary connector will seat in base plate L-823 connector holder. (Unit includes a Standard Monitoring Relay. See Section 8.5.)

6.6A Series Unit with Monitoring (Option 2)

When monitoring is included with unit, use an L-867 base with an internal ground. Install appropriate isolation transformer into light base and make necessary primary power connections using supplied 5-pin L-823 connector. Connect 5-pin connect molded female connector as follows: L-823 plug to isolation transformer, L-823 receptacle to field remote signal line L-823 plug and green lead with ring terminal to light base internal ground stud. Note: Large diameter contact is for monitor relay common contact and small diameter contact for monitor relay normally (closed or open) contact. The 5-contact L-823 style receptacle will connect to L-804 unit 5-pin L-823 style plug, 5-contact receptacle seats in base plate L-823 connector holder.

115-250VAC Voltage Unit with Monitoring

When monitoring is included with unit, use an L-867 base with an internal ground. Install on appropriate light base and make necessary primary power connections using supplied 5-pin L-823 connector. Connect 5-pin molded female connector as follows: L-823 plug to input AC power, L-823 receptacle to field remote signal line L-823 plug and green lead with ring terminal to light base internal ground stud. Note: Large diameter contact for monitor relay common contact and small diameter contact for monitor relay normally (closed or open) contact. The 5-contact L-823

style receptacle will connect to L-804 unit 5-pin L-823 style plug, 5-contact receptacle seats in base plate L-823 connector holder.

24 DC Voltage Unit with Monitoring

When monitoring is included with unit, use an L-867 base with an internal ground. Install on appropriate light base and make necessary primary power connections using supplied 5-pin L-823 connector. Connect 5-pin molded female connector as follows:

- L-823 plug to input DC power.
- L-823 receptacle to field remote signal line L-823 plug.
- Green lead with ring terminal to light base internal ground stud.

Note: Large diameter contact for monitor relay common contact and small diameter contact for monitor relay normally (closed or open) contact. The 5-contact L-823 style receptacle will connect to L-804 unit 5-pin L-823 style plug, 5-contact receptacle seats in base plate L-823 connector holder.

8.3 Tools Required for L-804 Installation

Tools required for installation are 1/8 inch allen key, 7/16 socket and wrench, 9/16 socket, flat bladed screwdriver and channel locks to accommodate a minimum opening of 1-3/4 inches.

8.4 L-804 Unit Installation

WARNING

WARNING:

Be sure POWER is OFF and secured.

Place the anti-rotation plate on top of base plate. Hex cutout to be over threaded center hub in base plate. Plug L-804 unit 2 pin L-823 plug or 5-pin L-823 style plug into mating receptacle held in center of base plate. With L-804 unit upright, engage frangible coupling threads into base plate threaded center hub a couple of turns.

It is recommended that antiseize compound (i.e. Loctite Antiseize 767 or equal) be applied to frangible coupling threads prior to installation to prevent galling and seizing. Loosen the six set screws in L-804 unit leg holding the frangible coupling. Thread frangible coupling all the way down into the base plate. Align anti-rotation plate hex with frangible coupling hex. Bolt anti-rotation plate to base plate. Note: the anti-rotation plate will bend slightly when fully bolted in place. Bolt tether to a base plate mounting hole. Align L-804 unit yoke perpendicular with taxiway centerline and tighten the six previously loosened set screws. Be sure #10 round head screws securing lens caps are tight. Return power to circuit. L-804 unit should begin flashing. If L-804 unit provided with optional On/Off switch, be sure switch is in ON position.

8.5 Standard Monitoring Relay Connection

You have an option of a normally open or normally closed contact to be used for failure monitoring. With **POWER OFF** and secured, open circuit card control box. Locate CN10 (com) CN7 "N.O." (No Alarms) or CN11 "N.C." (Alarm Indication) on circuit board p/n: 50542 or 50539 depending on your choice and application. Wire per Figure 4.

Option 2, 120Volt and 24 DC units come with the Monitoring Relay connection wired as showed in the Power Supply Diagrams. (See Figure 5, Figure 6, or Figure 7.)

8.6 Vertical Adjustment

The fixture can be aimed in elevation vertically from 0 to +20 degrees. The vertical adjustment has been factory preset at zero degrees. There are four pivot bolts (2 on each side) on the side supports. Loosen these bolts but DO NOT remove. Remove the bolts located at zero degrees on the side supports. Position the L-804 unit to the desired vertical adjustment by aligning the appropriately marked degree hole in the side supports with its mating hole in the yoke. Install bolts removed from zero degree holes through new desired vertical adjustment holes and tighten. Tighten side support pivot bolts. Vertical angle setting will be determined by the local airfield engineer. Refer to FAA AC 150/5340-28, Para. 4.e.

8.7 Horizontal Adjustment

The fixture can be aimed horizontally from -20 to +20 degrees. The horizontal adjustment has been factory pre-set to zero degrees. If required, remove the two bolts located at zero degrees located on top of yoke. Loosen the painted hex fitting (not the conduit fitting) located on top of the yoke. Rotate the L-804 to the desired horizontal adjustment by aligning the appropriate marked degree holes in the yoke with their mating holes in leg plate. Install bolts removed from zero degree holes through new desired horizontal adjustment holes and tighten. Tighten painted center hex fitting previously loosened. Horizontal angle setting will be determined by the local airfield engineer. Refer to FAA AC 150/5340-30D, paragraphs 4.4d & 4.4e.

8.8 External Ground Stud

An external ground stud is provided on the bottom of the circuit card control box for grounding the L-804 unit. Use #12 AWG (3.5 sq. mm) minimum for ground wire. (Note: L-804 units with monitoring have an internal ground. Also, the female 5-pin L-823 style plug ground should be connected to the internal L-867 ground stud as explained in Section 2.1.)

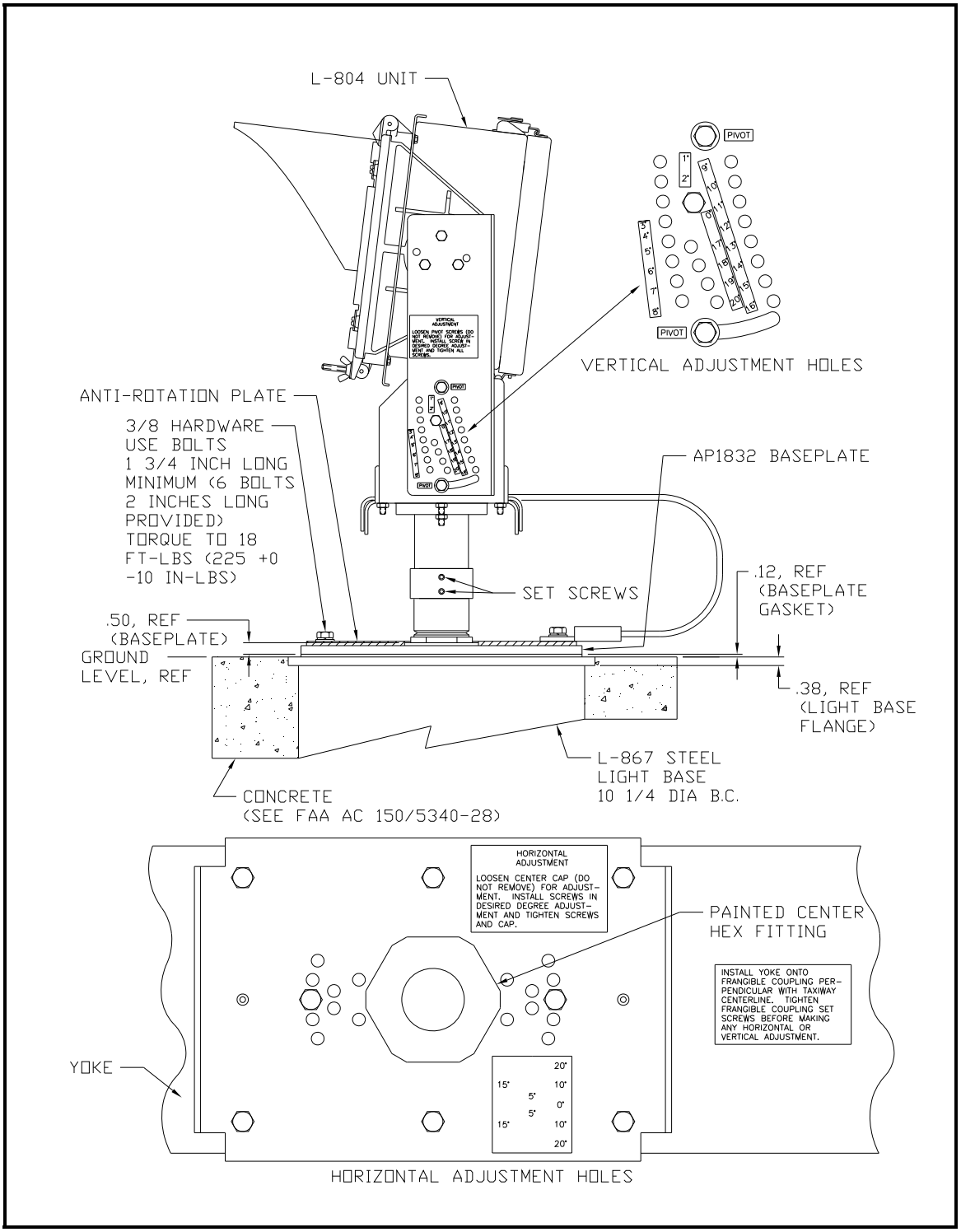


Figure 2. Installation Illustration

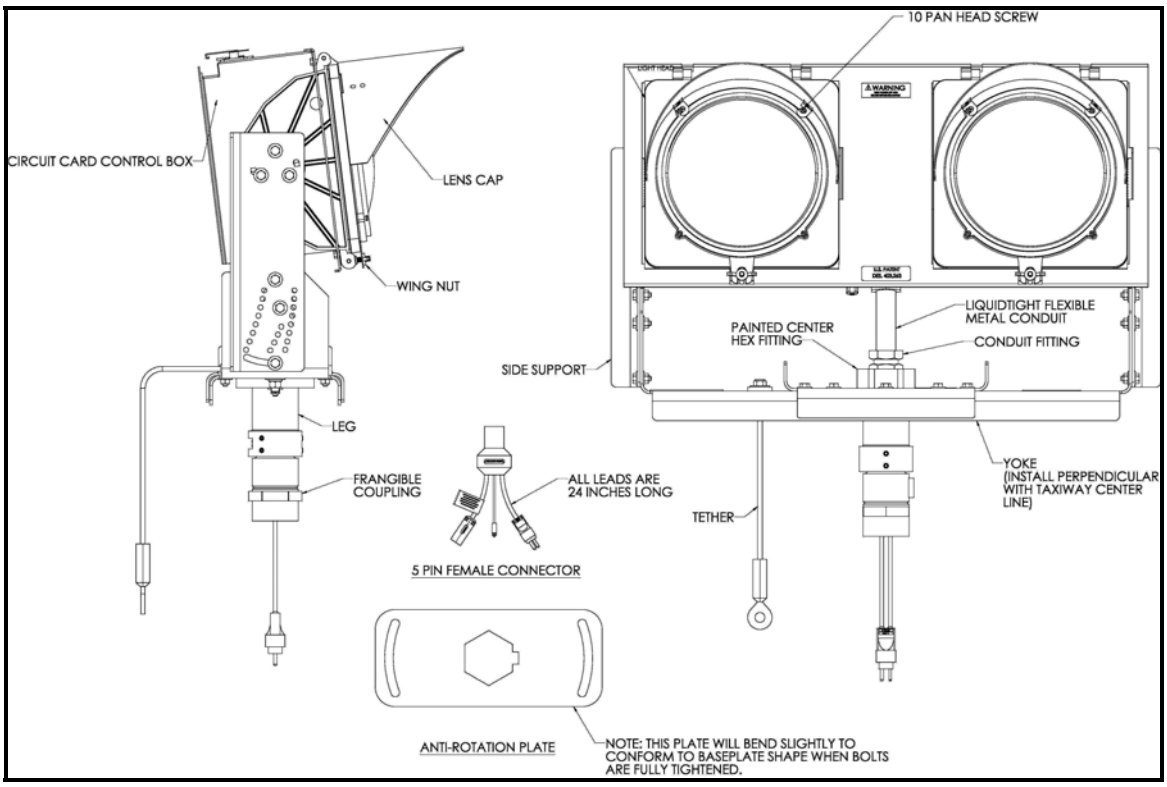


Figure 3. Installation Illustration

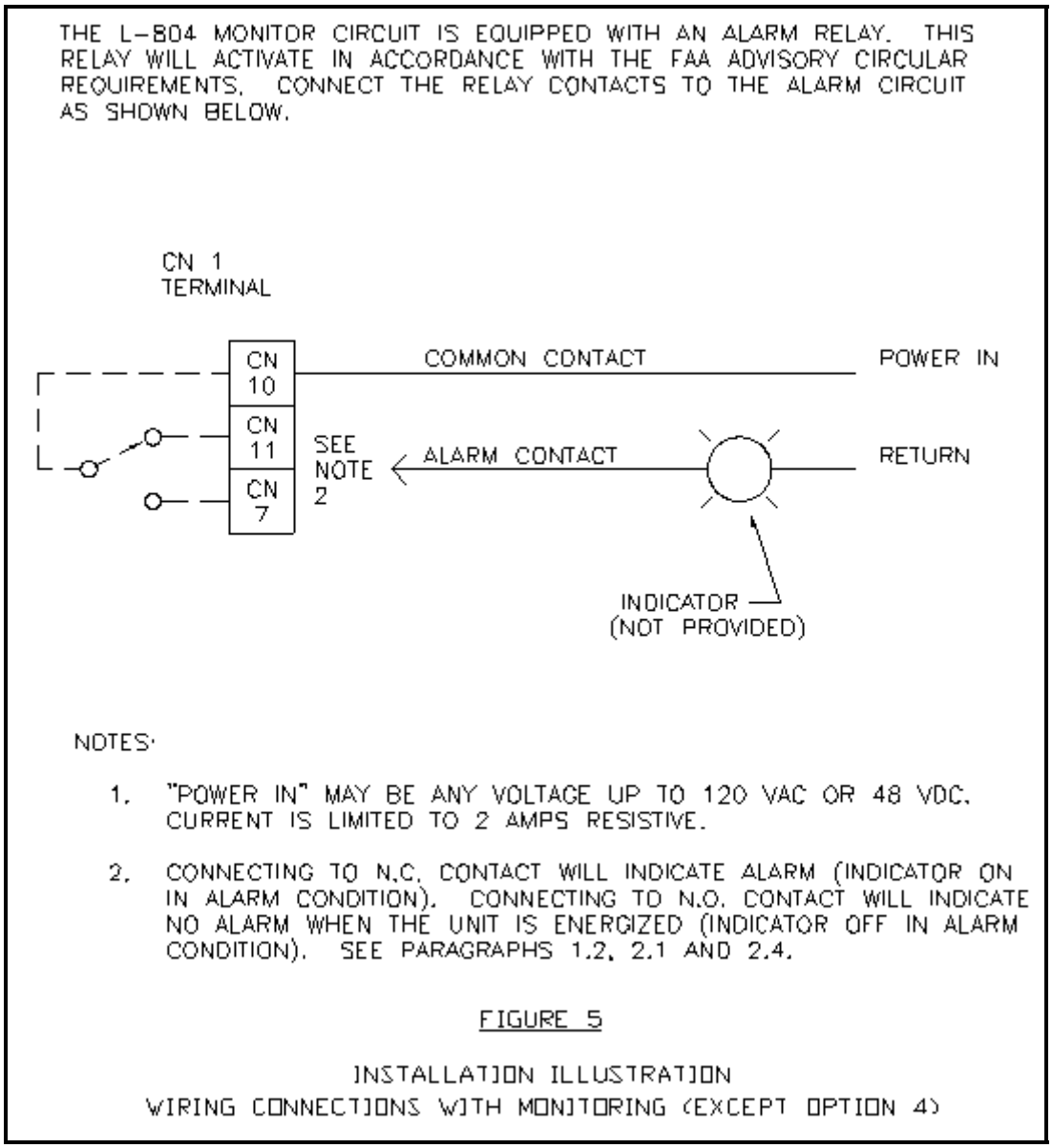


Figure 4. Installation Illustration

9 Periodic Maintenance

WARNING

WARNING:

Verify power is OFF and secured before accessing interior of light heads and circuit card control box.

9.1 General

At least every 6 months, the L-804 unit should be checked for the following: loose hardware; tighten all loose hardware. Water inside light heads; replace broken lenses and worn gaskets. Water inside circuit card control box; replace worn gaskets and check hole plug seal (apply RTV if necessary). Wiring; open light heads and circuit card control box, making sure terminals are properly seated. Chipped paint; touch up paint as necessary. Dirty lenses; clean with alcohol and dry with clean soft cloth. Dirty photocell sensor: same as lens cleaning.

9.2 Replacement of LED Modules

CAUTION

CAUTION:

Do not work on fixture when energized.

If replacement is required they should only be replaced with Crouse-Hinds part number 50547 LED Module. No tools are required for changing LED Module. Loosen wing nut on light head door and open to gain access to Module, lift Module up 180 degrees to get to mount pins. Disconnect LED Module lead terminals. Install new LED Module then reconnect wire leads previously disconnected. Then slowly let LED Module fall into rest position. Bottom tab will secure reflector when light head door is closed and fastened. Close light head door and tighten wing nut making sure washer is under wing nut and against door.

10 Troubleshooting

10.1 General

Work on electrical circuits should be done only by a qualified electrician with a working knowledge of airfield lighting circuits. Trouble-shooting is accomplished by means of process of elimination. It should be checked that the **POWER** is **OFF** and secured, and once one solution is tried, **POWER** is reapplied. Then **POWER** turned **OFF** and secured and another solution tried, etc. Repeat this until the problem is solved.

10.2 General (continued)

It is also assumed that the circuit is in proper working order from the isolation transformer secondary connector/or 5-pin L-823 style receptacle all the way to and including the power source. Use of a calibrated true RMS-reading multi-meter with a current sensing clamp-on attachment will aid in the trouble shooting of electrical circuits. A wiring diagram is located on the unit inside the circuit card control box on the back wall.

10.3 Problem Solving Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
LED(s) will not light on either 50547 LED module.	Input power is incorrect	For Series units verify that the incoming current is between 2.8 and 6.6 amps using a true RMS Ammeter.
		For AC voltage units verify that the incoming voltage is within 90-265 Vac.
		For DC voltage units verify that incoming volt is within 22-30 VDC.
	Optional ON/OFF switch in OFF position	Turn switch on
	Loose/broken wire(s)	Make proper connection.
		Verify connections to wiring diagram.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
LED module heads not flashing	If either LED D25 or D26 is not lit.	Check F1. If bad, replace.
		If good, change circuit card 50542 (115-250 VAC or 24 VDC units).
	If either LED D20 or D13 is not lit.	Change circuit card 50539 (6.6A units)
	If LED D24 on circuit card 50542 is lit.	See section Failure indicator D24 lit on 50542 Circuit Card.
	If LED D18 on circuit card 50539 is lit.	See section Failure indicator D18 lit on 50539 Circuit Card.
Voltage unit or DC unit not switching from Day to Night Mode correctly.	Photocell not pointing North	Make sure photocell is pointing to the North.
	Photocell not working or connected correctly.	Check wires for correct connection.
		Check D27 on 50542 Circuit Card with the photocell covered D27 should be lit.
		If D27 does not change when Photocell is covered, then check or replace Photocell assembly, 50560.
Failure indicator D24 Lit on 50542 Circuit Card (AC or DC voltage unit).	Input voltage.	For AC voltage units verify that the incoming voltage is within 90-265 Vac.
		For DC voltage units verify that the incoming voltage is within 22-30 Vdc.
	Check wiring.	Verify wire connections to wiring diagram.
	5 or more LED failures.	View unit during power rest observe number of flash and number of unlit LED(s). If the unit shuts down after 3 flashes and if there is more than 5

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
		LED(s) unlit replace 50547 LED Module.
	Photocell open or shorted.	Check photocell with an ohm meter Resistance should change from 18 Meg ohms when covered to 28k ohms when not covered.
Failure indicator D18 Lit on 50539 Circuit Card (current-powered unit).	Input current.	For Series units verify that the incoming current is between 2.8 and 6.6 amps using a true RMS Ammeter.
	Check wiring.	Verify wire connections to wiring diagram
	5 or more LED failures.	View unit during power rest observe number of flash and number of unlit LED(s). If the unit shuts down after 3 flashes and if there is more than 5 LED(s) unlit replace 50547 LED Module.
	Crest factor.	Check crest factor of input current to see that it is less 3.5.
		Contact Crouse Hinds Field Service.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Monitoring does not function.	Check wiring to relay for proper connections.	See Section 2.4 and Figure 5 on page 17.
	Loose or broken wire.	Make proper connections per wiring diagram.
	LED D24 should be lit on circuit card 50542 when unit is detecting a failure.	If not lit, replace circuit card 50542 (115-250 VAC or 24 VDC).
	LED D18 should be lit on circuit card 50539 when unit is detecting a failure.	If not lit, replace circuit card 50539 (6.6A).
	Problem with field remote signal lines.	Verify connections per wiring diagrams.
		Fix remote signal line wiring.

10.4 Recommended Field Quick Fix

At times, the process of elimination trouble shooting will not be convenient due to taxiway down time. Most problems with the L-804 unit generally will be limited to the circuit cards. These can be changed in the field very quickly, due to the fact all wiring utilizes fast-on terminations and no tools are required for changing the lamps. No tools can be required for changing the circuit cards with the following recommendation; Disconnect the leads from the circuit cards. Slide the circuit card cabinet door off of its slip hinge with old circuit cards still attached. Slide a new spare cabinet door with attached appropriate spare circuit cards back onto the cabinet slip hinge. Re-attach leads to circuit cards per wiring diagram. You may then fix circuit cards at your shop or contact Crouse-Hinds for repair or replacement of circuit cards.

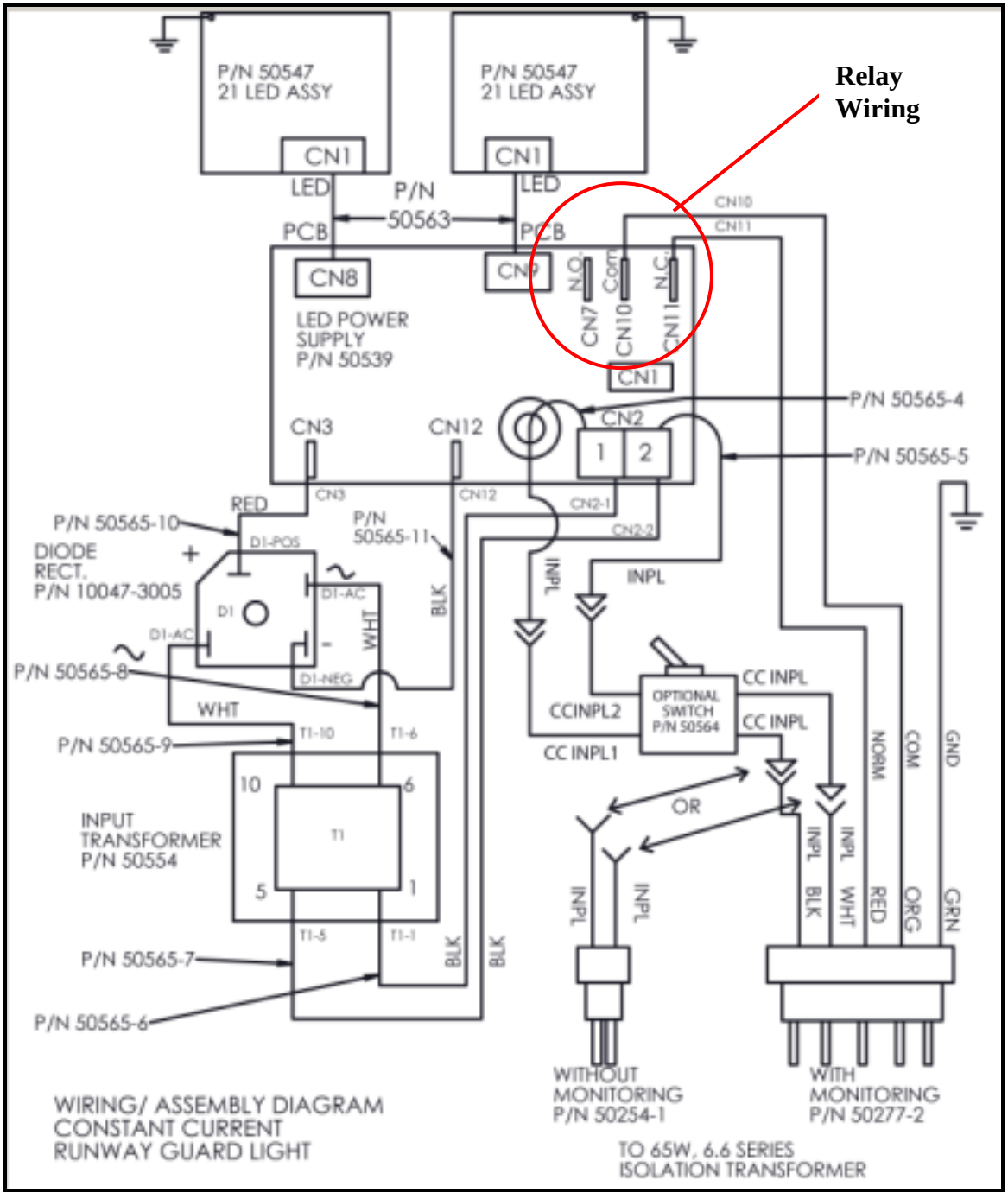


Figure 5. L-804 LED Current Power Supply Diagram

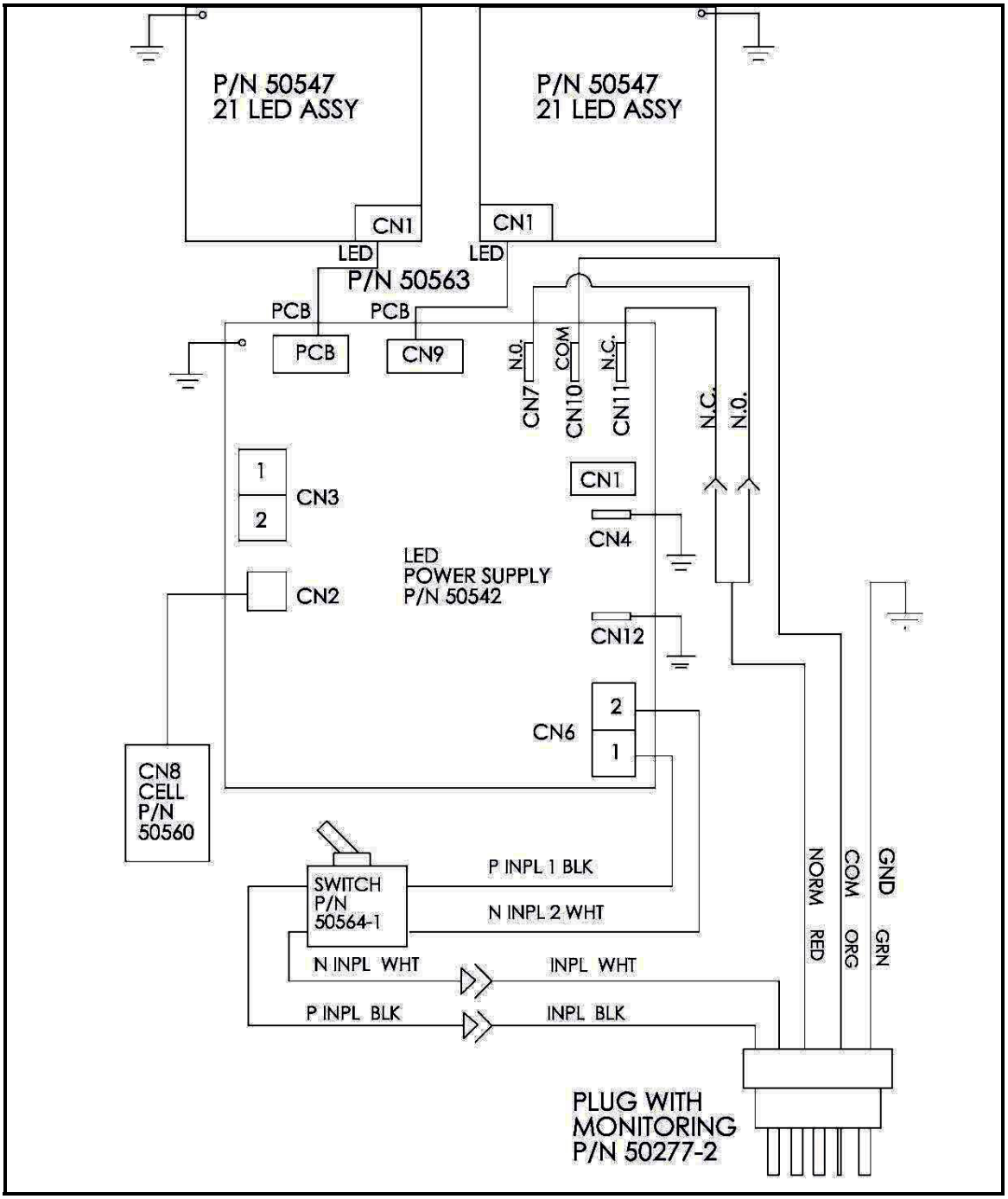


Figure 6. L-804 LED Voltage Power Supply Diagram 120VDC

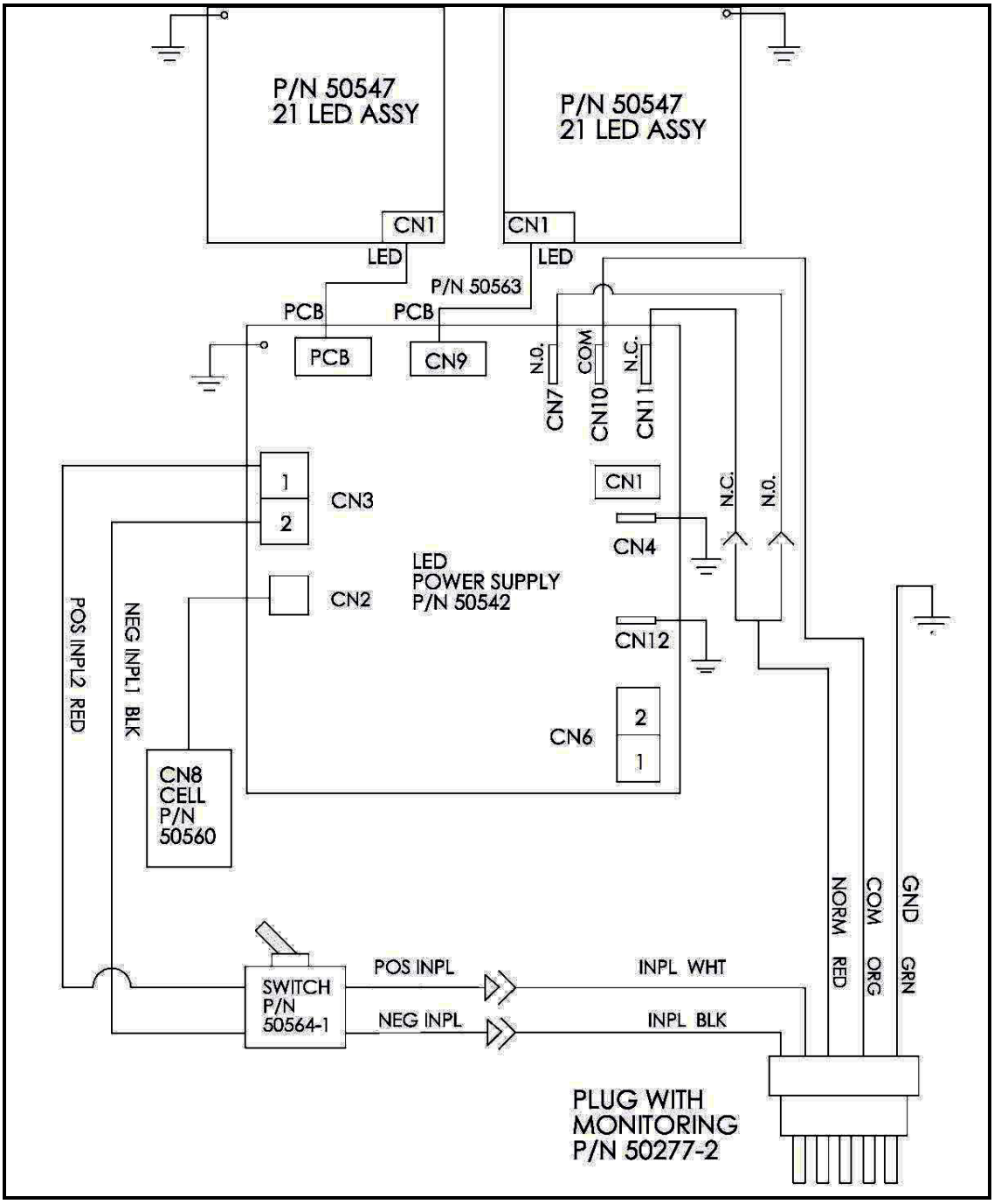


Figure 7. L-804 LED Voltage Power Supply Diagram 24VDC

11 Recommended Spare Parts (2 Year Supply)

ITEM	QUANTITY
Spare circuit card cabinet door assembly (includes gasket, warning label, hinge half and strike), Part No. 50284-1.	1 per 5 units, 1 unit minimum (6.6A).
Spare circuit card cabinet door assembly (includes gasket, warning label, hinge half and strike), Part No. 50284-2.	1 per 5 units, 1 unit minimum (115-250VAC circuit).
Circuit card mounting screw, pan head with Nylok, #6-32 x 1/4 long, 18-8 stn stl, Part No. 10000-367.	4 per airfield. 8 per airfield with Option 4.
Circuit card, Mode 1 (6.6A), Part No. 50539.	1 per 5 units, 1 min. 6.6A series circuit.
Bridge Rectifier, Part No. 10037-3005.	1 per 5 units, 1 min. 6.6A series circuit.
Mode 1 (6.6A) current Mode 1 transformer, Part No. 50554.	1 per 5 units, 1 unit minimum (6.6A series, current).
Circuit card, Mode, Part No. 50542.	1 per 5 units, 1 min. 115-250 VAC circuit.
Circuit card, Mode, Part No. 50542.	1 per 5 units, 1 min. 24 VDC circuit.
Photo Cell Assembly, Part No. 50560	1 per 5 units, 1 min. 115-250 VAC or 24 VDC circuit.
F1 fuse on circuit card 50542, part number 1.25A, 250V, 5x20mm, glass tube.	1 per 5 units, 1 min. 115-250VAC or 24VDC .

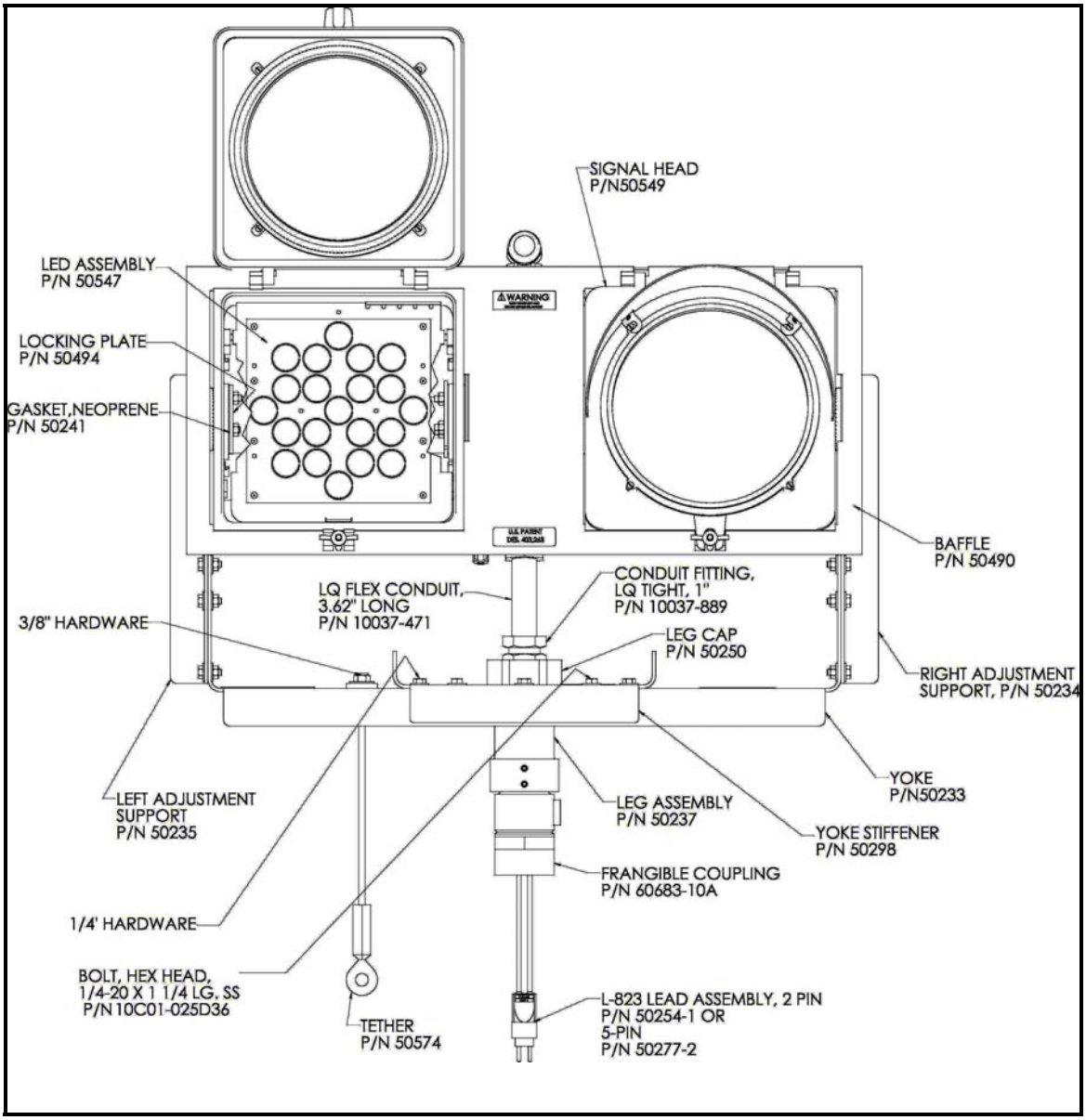


Figure 8. Parts Identification 1

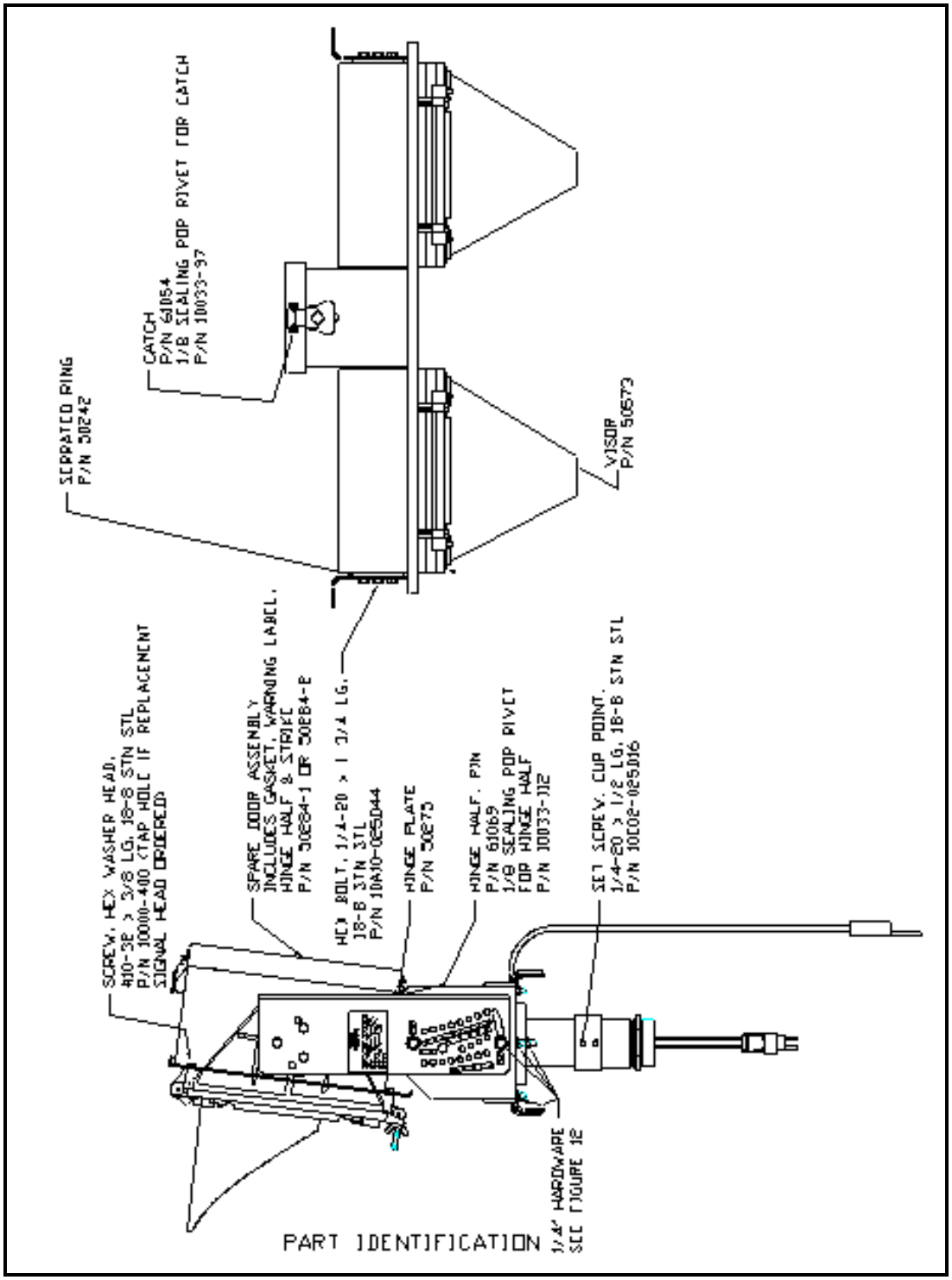


Figure 9. Parts Identification 2

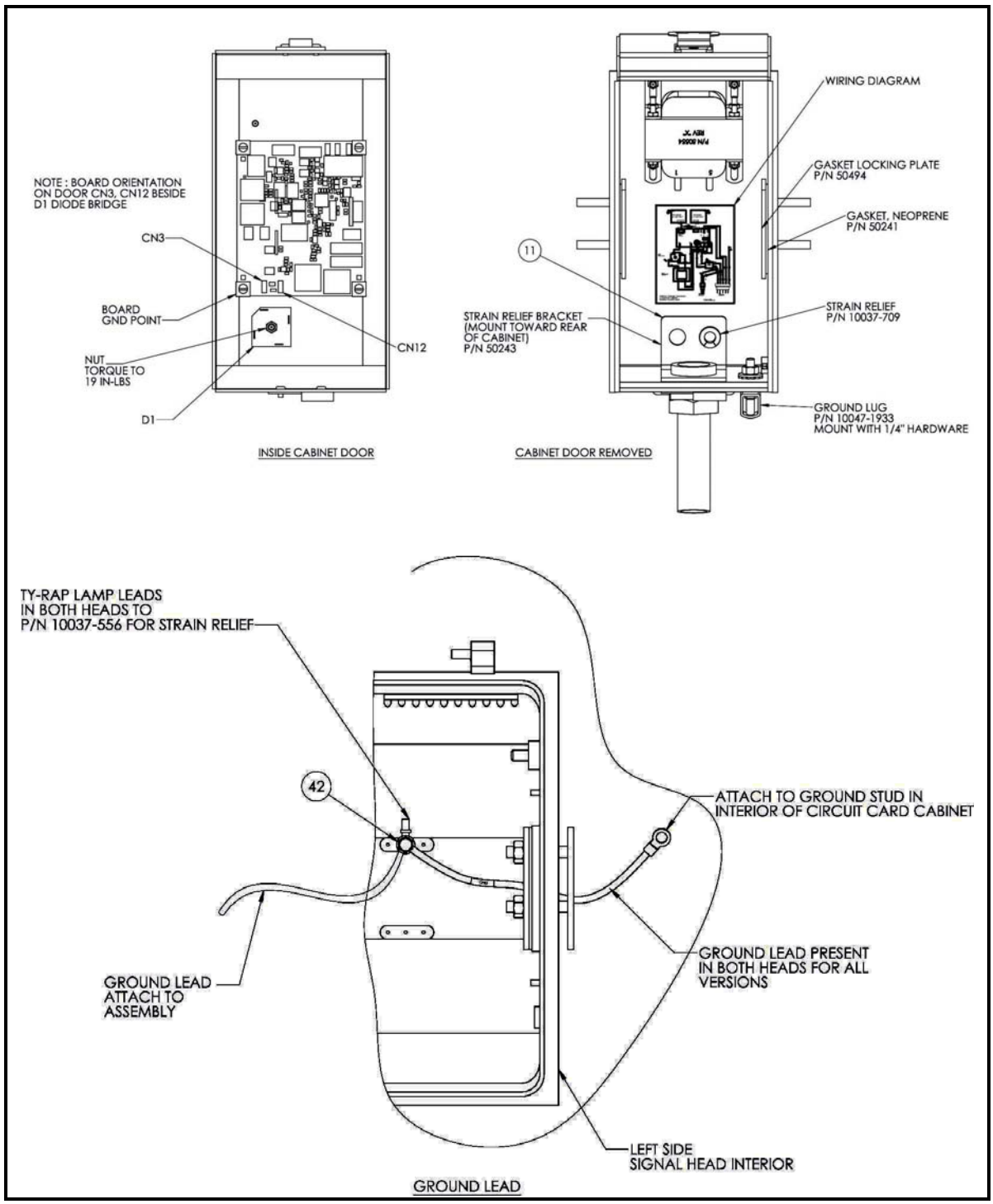


Figure 10. Parts Identification 3

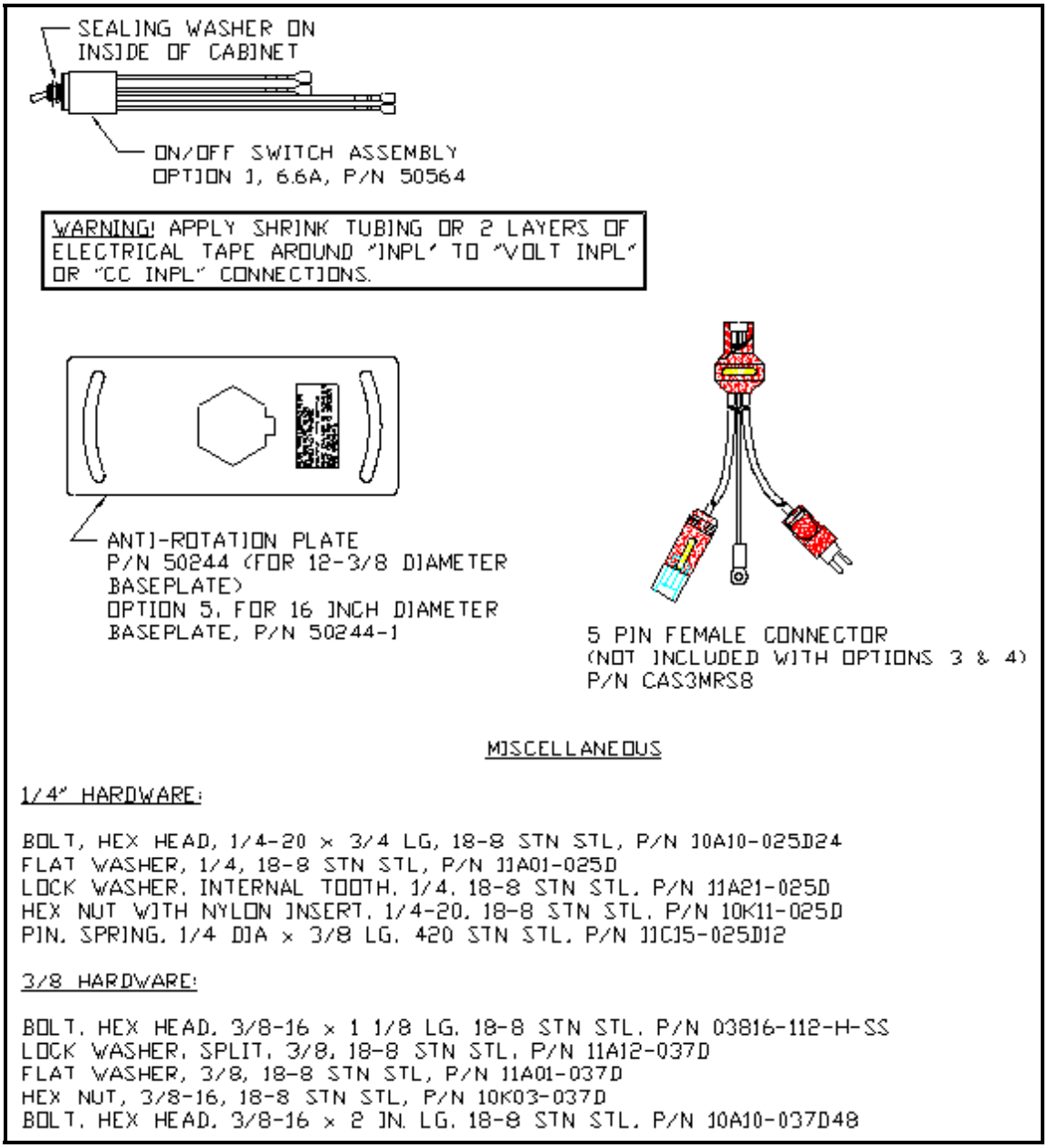
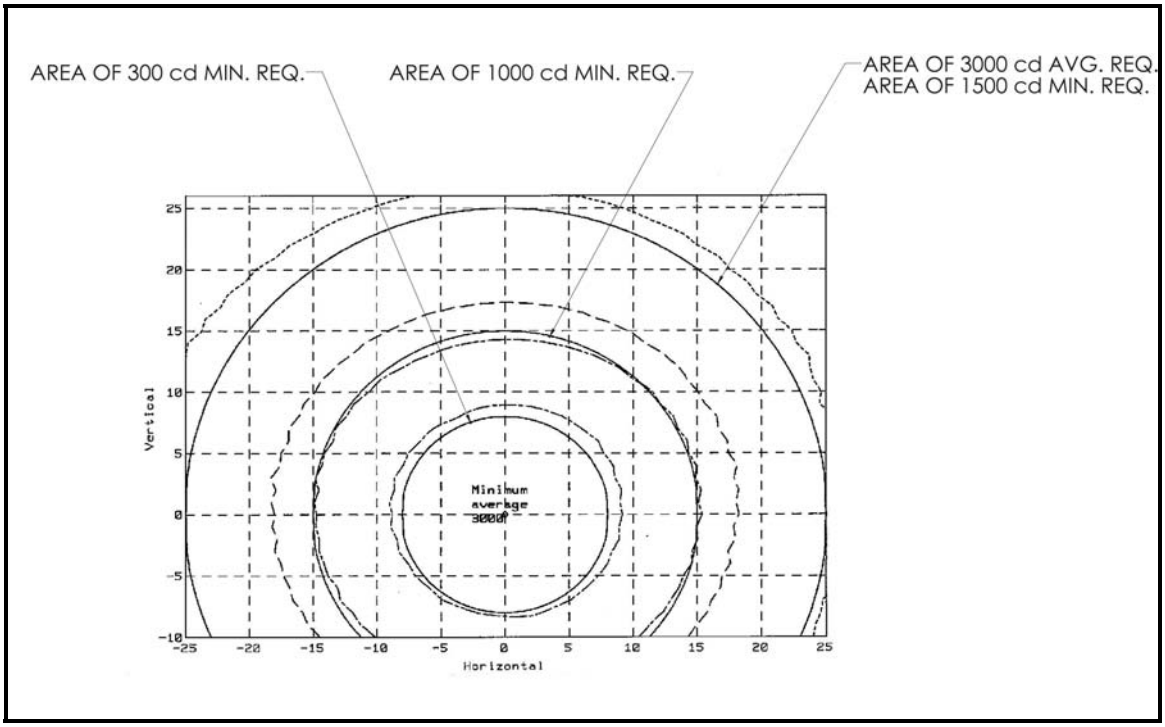


Figure 11. Parts Identification 4

Appendix A

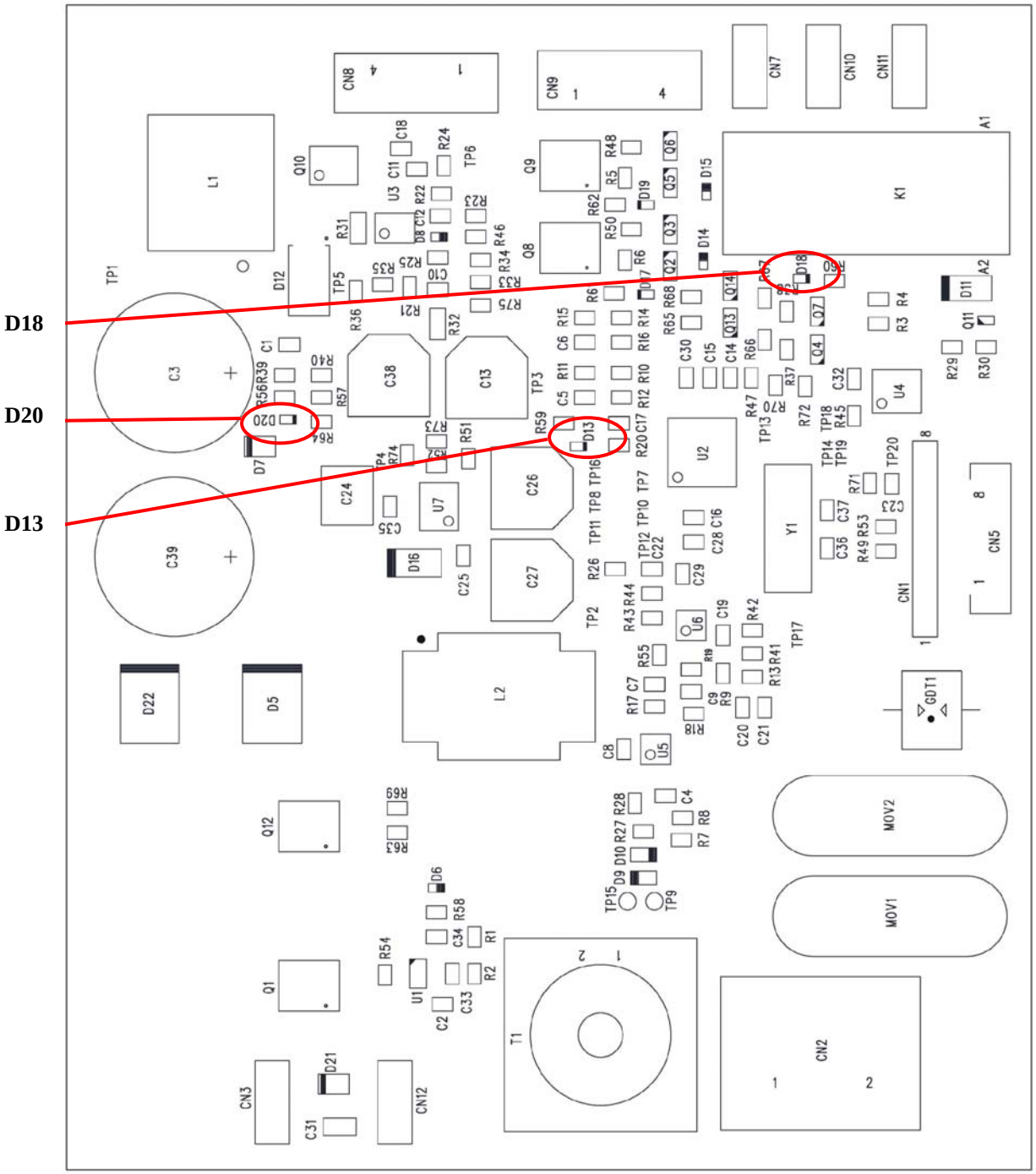
1.1. Typical Photometric Output @6.6 Amperes, Part Number 804E2



1.2. Light Beam Orientation for Elevated Runway Guard Lights

RGLs should be oriented to maximize the visibility of the light by pilots of aircraft approaching the runway holding position. The orientation should be specified by the (airport) design engineer to aim the center of the light beam toward the aircraft cockpit, when the aircraft is between 150 feet (45 m) and 200 feet (60 m) from the holding position, along the predominant taxi path to the holding position. The vertical aiming angle should be set between 5 degrees and 10 degrees above the horizontal. The designer should specify aiming of the lights such that the steady burning intensity at all viewing positions between 150 feet (45 m) and 200 feet (60 m) from the holding position is at least 300 cd when operated at the highest intensity step. (Refer to AC 150/5345-46 (latest revision), Specification for Runway and Taxiway Light Fixtures, for specifications for the light intensity and beamspread of the L-804 RGL fixture.) If these criteria cannot be met for all taxi paths to the holding position, consideration should be given to the use of multiple fixtures aimed to adequately cover the different taxi paths. The use of in-pavement fixtures to increase the viewing coverage, or aiming the single fixtures on each side of the holding position to optimize the illuminations of the predominant taxi path.

1.3. 50539 Assembly Drawing (showing indicator LEDs)



1.4. 50542 Assembly Drawing (showing indicator LEDs)